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## WHAT IS CLAIMED IS

1. A line quality characteristic evaluation system for a wireless communication line provided with a line quality estimating means estimating a line quality of a wireless communication line under nonlinear interference wireless lines in an area in which wireless lines for wireless communication by digital signals sharing space and other wireless lines interfering with the wireless lines are present together, based on nonlinear distortion influenced by all wireless lines in the area and expressed by an intercept point input level (IIP), a reception equivalent band limitation expressed by attenuation of the intercept point input level (IIP), reception side thermal noise of the wireless communication lines, and leakage power from other interfering wireless lines leaking into the reception equivalent band.

2. A line quality characteristic evaluation system as set forth in claim 1, wherein there are a plurality of other wireless lines and wherein said line quality estimating means further estimates the line quality of a wireless communication line based on probabilities of existence of an interfering plurality of wireless lines at any positions in said area.

3. A line quality characteristic evaluation system as set forth in claim 1 or 2, wherein said line quality estimating means provides base stations and mobile stations communicating by digital signals in said area and, at a downstream mobile wireless line from a base station to a mobile station, estimates a wireless line quality of a range of area under nonlinear interference by a plurality of interference waves for a planar distribution of said mobile stations based on a mobile station reception level due to mobile stations distributed in said area and a multiplexer channel of downstream lines, an interference level received by said mobile station from a wireless line in said area or

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nearby, and a prescribed value in said area.

4. A line quality characteristic evaluation system as set forth in claim 3, wherein in said line quality estimating means estimates a channel capacity in an upstream mobile wireless line from a mobile station to a base station in a range of area under nonlinear interference based on a reception level of a signal by said base station by a multiplexer channel from a plurality of mobile stations distributed in said area, an interference level received by said base station from a wireless line in said area or nearby, an amount of interference in a same system from a plurality of mobile stations distributed in said area, and the number of the plurality of mobile stations distributed planarly.